



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,341	11/26/2003	Hongjie Cao	SPG 6613 PDUS	8212
27624	7590	07/14/2009		
AKZO NOBEL INC. LEGAL & IP 120 WHITE PLAINS ROAD, SUITE 300 TARRYTOWN, NY 10591			EXAMINER CHANNAVAJJALA, LAKSHMI SARADA	
			ART UNIT 1611	PAPER NUMBER
			MAIL DATE 07/14/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/723,341	Applicant(s) CAO ET AL.	
	Examiner Lakshmi S. Channavajjala	Art Unit 1611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 08 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,8-10 and 26-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-10 and 26-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6-29-09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt of amendment and response dated 5-8-2009 and IDS dated 6-29-09 is acknowledged.

Claims 3-7 and 11-25 are canceled. New claims 28 and 29 are added.

Claims 1-2, 8-10 and 26-29 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5-8-09 has been entered.

The following new rejection has been applied to the pending claims:

Claim Rejections - 35 USC § 112

2. Claims 1-2, 8-10 and 26-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Instant claims have been amended to recite "emulsion polymerized", which is not supported by the instant specification. Applicants have not provided support for the claim limitation in their response of 5-8-08.

Art Unit: 1611

Further, a careful review of the instant specification fails to provide any support for the term emulsion polymerization and instead only teaches adding the acrylate copolymer to the aqueous phase prior to emulsification, during emulsification or heating stage, cooling stage or after cool down (page 4, L 3-10), which is not the same as emulsion polymerized. According to Odian (Principles of Polymerization, third edition), Emulsion polymerization is a unique process employed for some radical chain polymerization involving polymerization of monomers in the form of emulsions (see page 335). Instant specification fails to describe any polymerization of monomers and instead adds the copolymer to an emulsion or the aqueous phase before forming an emulsion. Hence, this constitutes a rejection under written description requirement.

3. Claims 1-2, 8-10 and 26-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Instant claim 1 recites the terms "from about" and "to about", which is indefinite because while the words "from and to" imply a definite amounts of the monomers, the word "about "allows for approximation. It is not clear from the instant claims as to what are the minimum and maximum amounts or percentages of the individual monomers that constitute the polymer.

5. The following rejection of record has been maintained:

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-2 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4085264 to Seib et al (Seib).

Seib teaches copolymers of acrylic acid, methacrylic acid and methacrylic acid esters and their use in hair care composition. The acrylate polymers of the copolymer are described as follows:

ing effect, can be combed out without difficulty.

We have found, surprisingly, that this object is achieved by the process according to the invention, ie. in a process for the manufacture of copolymers by copolymerizing acrylic acid or methacrylic acid with 4 esters of acrylic acid and methacrylic acid in the presence of free radical-forming initiators, wherein the improvement comprises copolymerizing — based on total weight of monomers

(a) from 45 to 80% of methyl methacrylate, 5

(b) from 10 to 30% of one or more alkyl acrylates where alkyl is of 3 to 12 carbon atoms and

(c) from 10 to 25% of acrylic acid and/or methacrylic acid at from 140° to 300° C and at from 2 to 50 bars.

In particular, Seib teaches butylacrylate as one of the copolymer (see col. 2, L 1) and the various amounts of the individual polymers that make up the copolymers are described in examples 1-3 polymers in col.3, L 5-42. Instant claims recite wherein the acrylate copolymer comprises from about 38% to about 48% butyl acrylate, from about 39% to about 49% methyl methacrylate, and from about 8%

Art Unit: 1611

to about 18% methacrylic acid, by weight of the copolymer. Seib fails to teach the exact percentages of the claimed polymers, particularly with respect to butyl acrylate. Seib teaches 45-80% methyl methacrylate and 10-25% methacrylic acid, which overlap with instant percentage of methyl methacrylate and acrylic acid respectively. Seib teaches lower amounts of butyl acrylate i.e., 10-30% whereas instant claim recites 38% to 48%. However, instant claim language "from about" and "to about" does not set an absolute lower and higher limit and allows for approximation. Further, Seib does discuss prior art copolymers with equal amounts of methacrylic acid ester and methyl methacrylate (col. 1, L 55-62, German published application DAS 2,161,909). Seib also states that while prior art copolymers with higher than 40% of methyl methacrylate and methacrylic acid esters were thought to be alcohol-insoluble and not good for film forming properties, it was discovered that such high amounts can still yield alcohol solubility and also excellent film forming properties. According to Seib the polymers are not completely neutralized and low degree of neutralization is advantageous for less tackiness of hair (col. 5, L 15-20). Therefore, a skilled artisan would be able to optimize the amounts of individual amounts of the polymers, particularly butyl acrylate, in the copolymers of Seib with an expectation to obtain the desired solubility in alcohol and excellent film forming property. With respect to the limitations of suncare and skin care composition of claims 8 and 10, the compositions of Seib are taught for hair, however, the claims do not recite any other components other than the polymer that is also

Art Unit: 1611

taught by Seib and therefore the composition of Seib also meets the claimed suncare and skin care limitations, which represent future intended use.

Additionally, a hair care composition can simultaneously function as a sun care composition because claim 8 recites same components of the composition and yet for sun care and eye lashes or eyebrows.

Response to Arguments

Applicants argue that Seib teaches copolymerizing the monomers, in the absence of solvents, mass polymerization or in the presence of solvents and a polymer melt is obtained after polymerization; which is contrary to the emulsion polymerized acrylate copolymer. It is argued that Seib does not disclose this feature but provides solution polymerization. Applicants' arguments are not persuasive because instant term "emulsion polymerized" denotes the process whereas the claim is directed to a product. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). While instant claims are now amended to recite emulsion polymerized, instant specification does not describe the process of producing instant polymer by claimed method.

Art Unit: 1611

Accordingly, Seib teaches a polymer that is within the scope of the claimed polymer and hence the rejection is maintained.

7. Claims 1-2, 8-10 and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6221389 to Cannell et al in view of US 4085264 to Seib et al (Seib).

Cannell teaches a hair care composition comprising an aqueous carrier and water insoluble materials (abstract, col. 3, L 25+). The composition is useful for hair, skin or eyelashes etc. For the water insoluble polymers, Cannell teaches that the polymers are unneutralized or partially neutralized (col. 7, Lines 33-40) and suggests specific polymers such as Luvimer 36D (col. 8, L 33-35), more particularly made of the monomers recited in claim 1. Cannell shows good hair curling and fixing properties with unneutralized polymers as well as partially neutralized polymer. Example 22 of Cannell is directed to a mascara composition, the preparation of which employs reads on an emulsion. Cannell is silent with respect to the claimed percentages of the individual monomers of the polymer. For the claimed anionic surfactant, Cannell teaches compositions with the above polymers in the form of shampoos, wherein the shampoo contains claimed anionic surfactant (example in col. 16 through col. 17).

Seib teaches the claimed copolymers, as described in the previous paragraph, for hair care composition as a film forming polymer. It would have been obvious for one of an ordinary skill in the art at the time of the instant invention was made

Art Unit: 1611

to include polymers such as those described by Seib in the composition of Cannell because Seib teaches acrylic and acrylic acid esters copolymers similar to Cannell, for their excellent film forming and hair combing properties and Cannell also teaches the polymers for their hair styling, fixing or other non-styling effects. With respect to the exact percentages of butyl acrylate in the copolymer of Seib, applicants have not provided any unexpected advantages with the specific percentage of butyl acrylate claimed.

Response to Arguments

Applicant's arguments filed 5-8-09 have been fully considered but they are not persuasive.

Applicants argue that **Cannell** discloses aqueous carrier systems based on organic phospholipids capable of forming bilayers in aqueous solutions, nonionic surfactants, and amphoteric surfactants, wherein the carrier systems allow water-insoluble polymers to be incorporated into aqueous solutions (col. 1, lines 12-18). It is argued that the compositions of Cannell include at least one organic phospholipid, at least one amphoteric surfactant and at least one nonionic surfactant (col. 2, lines 50-56) and water-insoluble ingredient is dissolved in a solution of the phospholipid, amphoteric surfactant and nonionic surfactant to form the aqueous carrier system and this system is then formulated in a personal care composition (col. 7, lines 1-11; col. 9, lines 10-45; col. 10, lines 1-11). It is argued that Cannell is silent with respect to the feature of a water dispersible

Art Unit: 1611

acrylate "emulsion polymerized" copolymer and thus the instant invention is distinguished over that of Cannell. However, the argument is not persuasive because the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). While instant claims are now amended to recite emulsion polymerized, instant specification does not describe the process of producing instant polymer by claimed method. Applicants argue that new claims 28 require anionic surfactant. However, Cannell teaches anionic surfactant in a shampoo composition (example col. 16-17). Applicants argue that claim 29 requires 45% polymer-in-water emulsion that is not taught by Cannell or Seib. However, Cannell states that up to 60% of the polymers are employed with the surfactants (col.8, L 39-45) in the composition, which includes the claimed amount. Thus, choosing the claimed amount of the polymer in the composition of Cannell with an expectation to deposit the LAN components of Cannell on application to hair, skin or eyelashes would have been within the scope of a skilled artisan.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lakshmi S. Channavajjala whose telephone number is 571-272-0591. The examiner can normally be reached on 9.00 AM -5.30 PM.

Art Unit: 1611

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila G. Landau can be reached on 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lakshmi S Channavajjala/
Primary Examiner, Art Unit 1611
July 13, 2009